

1975 Muskmelon Cultivar Evaluation Trials

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MUSKMELON CULTIVAR EVALUATION TRIALS FOR 1975

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Muskmelon cultivars were evaluated during the summer of 1975 at the OSU Horticulture Farm at Columbus and at the OARDC Crops Research Unit at Green Springs. Six hybrids were compared in replicated trials at Columbus; six were also compared at Green Springs. Twenty-four cultivars and experimental lines were evaluated in non-replicated, observation plots only at the Columbus locations.

Cultural Information

Columbus Location:

Plant growing--Seeds were sown on May 9, 1975, and transplanted into 2 1/4 in. sq. Cell-Packs on May 16. Two plants were grown in each pot. Plants were field-set on June 10.

Field Culture--1000 lb. per acre of 15-15-15 was broadcast and plowed down prior to planting. Four-ft. wide, 1.5-mil black plastic mulch was laid on 6-ft. centers before transplanting. Rows were 50 ft. long, 2 plants per hill, hills spaced 30 in. apart. Replicated trial had 4 replications per cultivar. One-half pint of starter solution of 6 lb. per 100 gal. of 10-52-8 was added to each hill at transplanting. Dacthal at 8 lb. per acre was applied to the unmulched area between the rows on June 17 for weed control. Cultural operations during the growing season were according to recommended practice.

Rainfall Conditions --	June	-	4.4 in.
	July	-	1.5 in.
	Aug.	-	3.2 in.
	Sept. (to 5th)		2.3 in.

Harvest -- Harvest started on Aug. 11 and continued until Sept. 5.

Green Springs Location:

Plant growing--Seeds were sown on May 13 into 2 1/4 in. sq. peat pots with 2 plants grown per pot. Plants were field set on May 28.

Field culture--600 lb. per acre of 6-24-24 was applied broadcast and disced in and 190 lb. per acre of 6-24-12 was drilled in the row before planting. Four-ft. wide 1.5-mil. black plastic mulch was laid on 6-ft. centers immediately before transplanting. Rows were 40 ft. long and the 2-plant hills were spaced 30 in. apart. There were 3 replications for each cultivar except for Eureka and Canada Gem which had 2 replicates. One-half pint of starter solution of 6 lb. per 100 gal. of 10-52-17 was added to each hill at transplanting. The pots were field set using a mechanical pot planter (Mechanical Transplanter Co., Holland, Mich.). Although the planter was effective in piercing the plastic

and placing the pots in the soil, it was necessary to follow the planter and firm the soil around the pots to prevent drying of the pots and subsequent "wicking" of moisture. Vegiben 2E at 2 lb. per acre was applied between the rows of plastic to control weeds. Cultural operations during the growing season were according to recommended practices.

Rainfall conditions--	May	3.43 in.
	June	3.88 in.
	July	2.44 in. plus 1.5 in. irrigation on 29th
	Aug.	6.50 in.

Harvest -- Harvest started on Aug. 4 and continued until Aug. 27.

Seed Sources

<u>Cultivar</u>	<u>Lot No.</u>	<u>Source</u>
Ambrosia	550-A1	W. Atlee Burpee Co., Philadelphia, Pa.
Burpee Hybrid	6137	W. Atlee Burpee Co., Philadelphia, Pa.
Canada Gem Hybrid	199B	Stokes Seed, Inc., Buffalo, N. Y.
Classic	1517U 582	Letherman's Inc., Canton, Ohio
Gold Star	562-112	Joseph Harris Co., Rochester, N. Y.
Supermarket	576-115	Joseph Harris Co., Rochester, N. Y.
Amco Sweet	57115	Asgrow Seed Co., Orange, Conn.
Chaca No. 1	734	Seedway, Inc., Hall, N. Y.
Cum Laude	271	Otis S. Twilley Seed Co., Salisbury, Md.
Early Dawn	559-131	Joseph Harris Co., Rochester, N. Y.
Edisto	77235-1	Asgrow Seed Co., Orange, Conn.
Eureka	1487-E	Letherman's, Inc., Canton, Ohio
Gusto 45	87211	Asgrow Seed Co., Orange, Conn.
Harvest Queen	57122	Asgrow Seed Co., Orange, Conn.
Harper Hybrid	563-995	Joseph Harris Co., Rochester, N. Y.
Honey Drip	1567-132	Joseph Harris Co., Rochester, N. Y.
No. 45-SJ	57585	Asgrow Seed Co., Orange, Conn.
Perlita	57125	Asgrow Seed Co., Orange, Conn.
Saticoy	574-990	Joseph Harris Co., Rochester, N. Y.
PSR 974	-	PetoSeed Co., Saticoy, Calif.
PSR 1574	-	PetoSeed Co., Saticoy, Calif.
PSR 1774	-	PetoSeed Co., Saticoy, Calif.
PSR 1974	-	PetoSeed Co., Saticoy, Calif.
PSR 6674	-	PetoSeed Co., Saticoy, Calif.
PSX 4273	-	PetoSeed Co., Saticoy, Calif.
XP 77	74-135	Agway, Syracuse, N. Y.
XP 171	56171	Agway, Syracuse, N. Y.
Chaca Hybrid	B7	Otis S. Twilley Seed Co., Salisbury, Md.
Oval Chaca	022-301	PetoSeed Co., Saticoy, Calif.
Crenshaw	5190	W. Atlee Burpee Co., Philadelphia, Pa.

Results and Discussion

Yield and fruit size results for the first 10 days of harvest and the total season's harvest from the replicated trials at Columbus and Green Springs are summarized in Tables 1 and 2. There are some obvious differences between cultivars

as indicated by the data. It should be noted that the cause of the higher percentage of culls for Early Dawn at Green Springs was primarily due to fruit cracking near the blossom end and on the ground side of the fruit which became infected with rotting organisms. Also, fruits of Honey Drip, a green-fleshed melon, were subject to skin cracking, especially as they approached maturity although fruit rotting was not a problem.

Results from the non-replicated trial are presented in Table 3. Several of these entries lack the distinct ribbing common among the muskmelon cultivars grown in the Eastern U.S. The Chaca hybrids appear very subject to fruit cracking at maturity and, therefore, should be picked at an early stage of stem slip to reduce the severity of this problem.

Results from the various quality characteristics for the entries grown in Columbus are summarized in Table 4.

TABLE 1.--Relation of Cultivar to Yield, Fruit Quality, and Size of Muskmelons -- Replicated Trial, Columbus.

Cultivar	First 10 Days of Harvest			Season Total Harvest		
	Mkt. cwt/A	% Culls	Size lb.	Mkt. cwt/A	% Culls	Size lb.
Ambrosia	121.2	19.4	3.6	214.0	27.5	3.2
Burpee Hybrid	205.9	23.0	3.7	266.2	26.4	3.5
Canada Gem	155.2	25.2	3.8	233.2	27.2	3.4
Classic	171.1	24.2	3.9	263.9	27.6	3.6
Gold Star	235.2	31.9	4.0	312.9	32.0	3.8
Supermarket	164.4	14.6	3.4	261.9	17.0	3.1
LSD .05	64.4	--	n.s.	n.s.	--	0.3

TABLE 2.--Relation of Cultivar to Yield, Fruit Quality and Size of Muskmelons -- Replicated Trial, Green Springs.

Cultivar	First 10 Days of Harvest			Season Total Harvest		
	Mkt. cwt/A	% Culls	Size lb.	Mkt. cwt/A	% Culls	Size lb.
Ambrosia	239.4	25.89	4.77	432.3	22.96	4.74
Burpee Hybrid	121.7	20.33	4.28	475.3	13.64	4.13
Early Dawn	212.7	42.85	4.69	339.9	41.59	4.50
Honey Drip	109.2	20.59	4.40	347.2	24.37	4.25
Eureka	--	--	--	180.2	50.70	4.26
Canada Gem	22.1	--	3.50	401.4	18.66	4.06

TABLE 3.--Relation of Cultivar to Yield, Fruit Quality, and Size of Muskmelons -- Non-replicated Trial, Columbus.

Cultivar	First 10 Days of Harvest			Season Total Harvest		
	Mkt. cwt/A	% Culls	Size lb.	Mkt. cwt/A	% Culls	Size lb.
Amco Sweet	0	100.0	0	20.0	81.8	3.4
Chaca No. 1	8.1	95.2	2.8	32.8	86.7	1.9
Cum Laude	80.9	21.4	2.5	142.1	58.1	2.7
Early Dawn	179.5	37.9	3.4	204.4	34.4	3.4
Edisto	9.9	0.0	3.4	207.4	11.5	3.1
Eureka	20.9	50.0	3.6	209.1	25.7	2.8
Gusto 45	107.9	25.0	2.1	171.1	27.5	2.0
Harvest Queen	7.5	66.7	2.6	167.9	46.9	3.4
Harper Hybrid	70.2	36.4	3.5	223.9	38.1	3.0
Honey Drip	32.5	33.3	2.8	65.8	38.5	2.8
No. 45-SJ	23.2	66.7	2.7	155.7	41.0	2.3
Perlita	137.8	19.0	2.8	241.6	25.0	2.5
Saticoy	61.5	44.4	4.2	302.5	21.4	3.2
PSR 974	135.1	8.3	4.2	259.3	20.0	3.7
PSR 1574	80.0	40.0	2.3	172.8	36.4	2.1
PSR 1774	181.0	12.5	3.0	281.0	32.1	2.7
PSR 1974	127.9	21.7	2.4	141.5	51.2	2.4
PSR 6674	187.0	14.8	2.8	256.6	25.6	2.8
PSX 4273	264.8	13.6	4.8	382.8	18.4	4.3
XP 77	0	100.0	0	283.9	46.3	4.4
XP 171	26.1	40.0	3.0	110.2	53.8	3.2
Chaca Hybrid	103.0	59.5	2.1	114.6	68.4	2.2
Oval Chaca	113.4	36.4	2.8	142.7	52.5	2.6
Crenshaw	87.0	28.6	6.0	141.2	57.1	5.4

TABLE 4.--Quality Characteristics of Muskmelon Cultivars or Lines --
Columbus Trials.

Cultivar or Line	% Soluble Solids	Texture	Firmness	Flavor	Aroma	Color
Ambrosia	14.0	5	4	3	3	3
Burpee Hybrid	12.5	4	4	5	3	4
Canada Gem	12.5	5	5	4	4	3
Classic	11.5	3	5	3	4	5
Gold Star	11.5	3	4	4	3	4
Supermarket	11.0	3	3	3	3	3
Amco Sweet	5.5	4	4	2	3	-
Chaca No. 1	10.5	4	4	3	3	3
Cum Laude	13.5	4	5	4	3	3
Early Dawn	12.5	4	5	2	4	4
Edisto	13.0	4	5	3	3	5
Eureka	9.5	3	5	1	2	3
Gusto 45	12.0	4	5	5	3	3
Harvest Queen	14.5	3	5	4	3	3
Harper	14.0	4	4	4	3	4
Honey Drip	12.5	3	4	4	3	-
No. 45-SJ	8.5	4	5	2	3	4
Perlita	12.5	4	5	3	3	4
Saticoy	13.0	4	5	4	3	4
PSR 974	13.5	4	3	3	3	3
PSR 1574	7.0	3	3	2	3	3
PSR 1774	10.5	4	4	2	3	4
PSR 1974	9.5	4	5	3	3	4
PSR 6674	12.0	4	4	2	1	4
PSX 4273	11.5	4	4	4	3	5
XP 77	9.0	4	4	3	3	4
XP 171	14.0	4	5	3	3	4
Chaca Hybrid	12.5	4	5	3	3	5
Oval Chaca	12.0	3	4	2	3	5
Crenshaw	11.5	4	4	4	3	2

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